

REMARKS

The Examiner's remarks have been carefully considered and the prior patents cited and applied have been carefully studied.

Applicant has amended Page 12 of the description as suggested by the Examiner.

Claims 1 to 45 are pending in this application. Claims 26-34 have been withdrawn from consideration in this application.

Applicant has also amended claim 3 as suggested by the Examiner. Claims 13 and 20 have also been amended in order to remove the Examiner's objections to claims 20-25 as being indefinite. Applicant submits the claims 3 and 20-25 as amended are now not indefinite.

Claims 9-12 and 43-45 have been rewritten in independent form and as rewritten to overcome the rejection on indefiniteness. The Examiner has indicated that these claims would be allowable and such action is respectfully requested.

Reconsideration of the rejection of the claims under Sections 102 and 103 is respectfully requested.

The Applicant's invention is directed to a vial and the method of making the vial in which the outer walls of the vial are straight and cylindrical. The inner cavity of the vial is curved. This invention has several distinct advantages. It permits the vial to be accurately placed in a level without precision tools, eliminates the need for internal undercut in existing straight vials, is more sensitive than existing vials and may be made from harder plastic material thereby making the vial more resistant to scratching. The method is unique in that the vial has its straight cylindrical outer surface and its curved cavity formed simultaneously. None of the prior patents applied or cited by the Examiner shows this structure or method.

Johnson 3,750,301 shows a vial in which the outer surface is not straight-it is curved in the form of an arc. The outer surface is neither cylindrical nor straight. It is quite evident from Figs. 1 and 3 of the drawings that the curve of the outer surface of the vial is quite pronounced. The Examiner's attention is also directed to Fig. 2 which is a sectional view of the vial. The Examiner will note that the dark crescent shaped area beneath cross hatched of the vial clearly shows that the outer surfaces at the ends of the vial are lower than the outer surface of the center of the vial thereby clearly showing that the outer surface of the vial is curved. Since this patent does not show a vial having a cylindrical and straight walled outer surface, this patent does not anticipate applicant's invention.

Neis 4,521,974 merely shows a vial with a curved inner cavity in a rectangularly shaped outer surface. It is quite different from applicant's structure and does not anticipate applicant's invention.

Wullschlegler 752,693 shows a vial having a barrel shaped cavity and various outer shapes. This does not show applicant's structure and does not anticipate applicant's invention.

Hutchins 5,199,177 shows a vial mounted in an aperture in a level. None of the other features of applicant's invention are shown in this patent and hence this patent does not anticipate.

The Examiner has rejected claims 2-6, 8 and 35-40 on the suggested combination of the Johnson and Neis structures. Applicant submits that when combined, the combined structure would not result in rendering applicant's invention obvious. Still lacking from any combination of references is the fact that applicant's vial has a cylindrical and straight outer surface with a curved inner cavity. This is not shown in Johnson nor in any of the other patents cited by the Examiner. Hence, the suggested combination would not render the invention obvious. Moreover, the

rejection of method claims 35-40 on the combination of these references is not justified. None of the patents shows applicant's method. For example, these patents do not show the method of making a vial having an outer wall and an inner cavity in which the outer wall is a straight cylindrical figuration and the inner cavity of the vial is a curve in which both the inner cavity and the outer straight cylindrical wall are formed simultaneously. The Examiner makes the bare assertion that the method steps will be met during the normal manufacturing of the device stated above but does explain how the method steps will be met. Applicant submits that the suggested combination of these references would not result in applicant's structure and method and do not render applicant's invention obvious.

The Examiner has rejected claims 7, 41-42 on the suggested combination of the Johnson, Neis and Wullschleger structures. Applicant submits that when combined, the combined structure would not result in rendering applicant's invention obvious. Still lacking from any combination of references is the fact that applicant's vial has a cylindrical and straight outer surface with a curved inner cavity. This is not shown in Johnson nor in any of the other patents cited by the Examiner. Hence, the suggested combination would not render the invention obvious. Moreover, the rejection of claims 41-42 on the combination of these references is not justified. None of the patents shows applicant's method. For example, these patents do not show the method of making a vial having an outer wall and an inner cavity in which the outer wall is straight cylindrical figuration and the inner cavity of the vial is a curve in which both the inner cavity and the outer straight cylindrical wall are formed simultaneously. The Examiner makes the bare assertion that the method steps will be met during the normal manufacturing of the device stated above but does explain how the method steps will be met. Applicant submits that the suggested combination of


these references would not result in applicant's structure and method and do not render applicant's invention obvious.

The Examiner has rejected claims 13-18 on the suggested combination of the Johnson, Neis and Hutchins structures. Applicant submits that when combined, the combined structure would not result in rendering applicant's invention obvious. Still lacking from any combination of references is the fact that applicant's vial has a cylindrical and straight outer surface with a curved inner cavity. This is not shown in Johnson nor in any of the other patents cited by the Examiner. Hence, the suggested combination would not render the invention obvious.

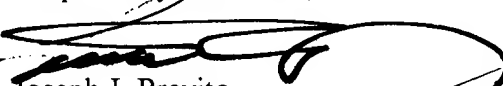
The Examiner has rejected claim 19 on the suggested combination of the Johnson, Neis, Hutchins and Wullschleger structures. Applicant submits that when combined, the combined structure would not result in rendering applicant's invention obvious. Still lacking from any combination of references is the fact that applicant's vial has a cylindrical and straight outer surface with a curved inner cavity. This is not shown in Johnson nor in any of the other patents cited by the Examiner. Hence, the suggested combination would not render the invention obvious. Moreover, reconsideration of the rejection and allowance of the application is respectfully requested.

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I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231, on October 2, 2001.


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Amendment-VIAL

Respectfully submitted,


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side edges 62 at right angles to the outer edge 61. Each vial 1 has keys 57 similar to keys 57 in Fig. 6-12 extending from one side of the vial adjacent the open end 6 and curved flanges 65 extending from the other side of the open end 6. The curved flanges 65 extend in opposite directions from each other and opposite to the direction of the keys 57. Each flange 65 has a straight wall 66 tangent to the outer wall 3 of the vial 1 and on the same plane as the side wall 58 of the keys 57. Each flange 65 also has a curved surface 67 extending from the edge of the straight wall 66 to the outer wall 3 of the vial 1 and conforming to the curvature of said outer wall 3. The curved flanges 65 of one vial 1 abut against the curvature of the other vial that is next to it so as to orient the two and prevent them from rolling relative to each other. The two vials 1 are placed side-by-side in the notches 61 so that they fit snugly in the notches 61. They are placed in reverse position so that the keys 57 and flanges 65 at the end of one vial are opposite the keys 57 and flanges 65 at the end of the other vial. Hence, cap end 7 of one vial will lie opposite the end cap 7 of the other vial. When the two vials 1 are placed side-by-side in notches 61 with the closed ends 5 facing in opposite directions, the flanges [57] 65 will properly

3. (Amended) A vial as set forth in Claim 2, wherein the apex of the curved inner cavity is closer to the cylindrical outer wall of the vial than the opposed of the inner cavity.
9. (Amended) A vial [as set forth in Claim 8, wherein] comprising an outer wall, said outer wall being straight and cylindrical, an inner cavity, said inner cavity being curved, said inner cavity being curved in a substantially uniform arc having an apex, opposed ends spaced from the apex and opposed spaced sides at an angle of 90 degrees from the apex, the apex of the curved inner cavity is closer to the cylindrical outer wall of the vial that the opposed ends of the inner cavity, the said cavity is substantially uniform in cross section throughout its length, planes tangent to the sides of the cavity are parallel to each other and at right angles to a plane tangent to said apex, one end of said cavity terminates in an end wall, the other end of said cavity is open and wherein a cap is adapted to close the said open end, the other end of said cavity is open and a pair of keys extend from the outer wall of said vial adjacent said open end, said keys extending in opposite directions from each other, each of said keys have edge and side walls at right angles to each other, said walls being tangent to the outer wall of the vial with one of said walls being parallel to the plane tangent to the apex of the cavity.
13. (Amended) A level having a pair of opposed parallel rails, a web perpendicular to said rails and connecting the rails together, a vial-receiving opening in said web, said vial-receiving opening having opposed notches therein, said opposed notches having an end wall and spaced side walls at right angles to said end wall, at least one [a] vial mounted in said vial-receiving opening, the opposed ends of the vial being mounted in the opposed notches, said vial comprising an outer wall, said outer wall being straight and cylindrical, an inner cavity within said vial, said inner cavity being curved.

20. (Amended) A level as set forth in Claim 19, wherein a pair of keys extend from the outer wall of said vial [level] adjacent said open end, said keys extending in opposite directions from each other, said keys adapted to be received in the opposed notches.
43. (Amended) A method [as set forth in Claim 42, wherein] of making a vial having an outer wall and an inner cavity comprising the steps of forming the outer wall in a straight cylindrical configuration, forming the inner cavity of the vial in a curve, said inner cavity and the outer straight cylindrical wall being formed simultaneously, the inner cavity being formed curved in a substantially uniform arc having an apex with opposed ends spaced from the apex and with opposed spaced sides at an angle of 90 degrees from the apex, the apex of the curved inner cavity is formed closer to the cylindrical outer wall of the vial than the ends of the inner cavity, the said cavity is formed substantially uniform in cross section throughout its length, planes tangent to the sides of the cavity are formed parallel to each other and at right angles to a plane tangent to said apex, one end of said cavity is formed terminating in an end wall, the other end of said cavity if formed open, a pair of keys are formed extending from the outer wall of said vial adjacent said open end, said keys extending in opposite directions from each other, each of said keys is formed with edge and side walls at right angles to each other, said walls being tangent to the outer wall of the vial, with one of said walls being parallel to the plane tangent to the apex of the cavity.